

AMENDMENTS TO THE CLAIMS

Claims 1-14 (Canceled)

15. (New) A process for preparing 3-pentenitrile, characterized by the following process steps:

- (a) reacting 1,3-butadiene with hydrogen cyanide over at least one catalyst to obtain a stream 1 which comprises 3-pentenitrile, 2-methyl-3-butenitrile, the at least one homogeneously dissolved nickel(0) catalyst which is stabilized with phosphorus ligands and the phosphorus ligands are selected from the group consisting of phosphines, phosphites, phosphinites and phosphonites, and 1,3-butadiene,
- (b) distilling stream 1 in a column to obtain a high-1,3-butadiene stream 2 as the top product and a low-1,3-butadiene stream 3 as the bottom product which comprises 3-pentenitrile, the at least one catalyst and 2-methyl-3-butenitrile,
- (c) distilling stream 3 in a column to obtain a stream 4 as the top product which comprises 1,3-butadiene, a stream 5 which comprises 3-pentenitrile and 2-methyl-3-butenitrile at a side draw of the column, and a stream 6 as the bottom product which comprises the at least one catalyst,
- (d) distilling stream 5 to obtain a stream 7 as the top product which comprises 2-methyl-3-butenitrile, and a stream 8 as the bottom product which comprises 3-pentenitrile,

with the proviso that, in process steps (b) and (c), the bottom temperatures do not exceed 140°C and the sum of the average residence times in the distillation apparatus in process steps (b) and (c) together is not more than 10 hours.

16. (New) The process according to claim 15, wherein the high-1,3-butadiene stream 2 from process step (b) is recycled at least partly into process step (a).

17. (New) The process according to claim 15, wherein, in process step (c), stream 6 is obtained via the bottom with a concentration of 2-methyl-3-butenitrile which is lowered in

comparison to stream 5, the lowering being based on the ratio of the concentrations of 2-methyl-3-butenenitrile to trans-3-pentenitrile.

18. (New) The process according to claim 15, wherein stream 6 from process step (c) is recycled at least partly into process step (a).

19. (New) The process according to claim 15, wherein stream 4 from process step (c) is recycled at least partly into process step (a) and/or (b).

20. (New) The process according to claim 15, wherein stream 5 is withdrawn in vaporous form at the side draw in process step (c).

21. (New) The process according to claim 15, wherein stream 7 from process step (d) is recycled at least partly into process step (a) and/or process step (b).

22. (New) The process according to claim 15, wherein, in process step (c), there are from 1 to 50 distillative separation stages between the position of the side draw and the column bottom.

23. (New) The process according to claim 15, wherein the proportion of 2-methyl-3-butenenitrile in the catalyst stream 6 obtained in process step (c) is from 0 to 5% by weight.